

CLAIMS (as originally filed)

1. A method for operating a cryostorage device (100), especially for biological samples, which comprises a sample carrier (10) to receive at least one sample (11) and a data storage (20), characterised in that data are inductively transmitted from the data storage (20) into a wireless transmission channel (40) and/or conversely using a resonant circuit (30) connected to the data storage (20).
2. The method according to claim 1, wherein the data are transmitted using a transponder which comprises the data storage (20) and the resonant circuit (30).
3. The method according to claim 1 or claim 2 wherein the data storage (20) and/or a data processing unit are supplied with energy using the resonant circuit (30).
4. The method according to one of the preceding claims, wherein the resonant circuit is connected via the data transmission channel (40) to a transmission antenna (50) from which the data are transmitted to a control and evaluation device (60).
5. The method according to one of the preceding claims, wherein the data transmission takes place whilst the at least one sample (11) is in a cryopreserved state.
6. The method according to one of the preceding claims, wherein data are transmitted using the resonant circuit (30) which comprise sample data with which the sample (11) is identified and characterised, process data characteristic of sample storage conditions so far and/or control data with which pre-determined

operating states of the cryostorage device are set or triggered.

7. The method according to claim 6, wherein the sample data contain measured values which have been obtained for the samples or the cryostorage device, and the control data are adjusted using the control and evaluation device (60) depending on the measured values.
8. The method according to any one of the preceding claims, wherein the data transmission takes place at temperatures below -40 °C.
9. A cryostorage device (100), especially for the cryostorage of biological samples in the frozen state which comprises at least one sample carrier (10) to receive at least one sample (11) and at least one data storage (20),
characterised by
at least one resonant circuit (30) which is connected to the data storage (20) and is set up to transmit data inductively from the data storage (20) into a wireless transmission channel (40) and/or conversely.
10. The cryostorage device according to claim 9, wherein the resonant circuit (30) is part of a transponder which comprises the data storage (20) and the resonant circuit (30).
11. The cryostorage device according to one of claims 9 or 10 wherein a separate sample data storage is provided.
12. The cryostorage device according to one of claims 9 to 11 which contains a data processing unit in which the data storage (20) is integrated.

13. The cryostorage device according to one of claims 9 to 12 wherein a transmission antenna (50) and a control and evaluation device (60) are provided wherein data can be transmitted between the data storage (20) and the control and evaluation device (60) via the resonant circuit (30) and the transmission antenna (50).
14. The cryostorage device according to one of claims 9 to 13, wherein the sample carrier (10), the data storage (20) and the resonant circuit (30) are arranged in a thermally insulated container (70) for accommodating a cooling medium, especially liquid nitrogen.
15. A cryostorage system (200) containing a plurality of cryostorage devices according to any one of claims 9 to 14.
16. The cryostorage system according to claim 15, wherein the cryostorage devices are arranged in a cryocontainer (70) with a transmission antenna (50) and a control and evaluation device.
17. The cryostorage system according to one of claims 15 or 16, which is equipped with cooling using liquid nitrogen or liquid nitrogen vapour.
18. A use of telemetric transponders for data transmission in a cryostorage device for biological samples.